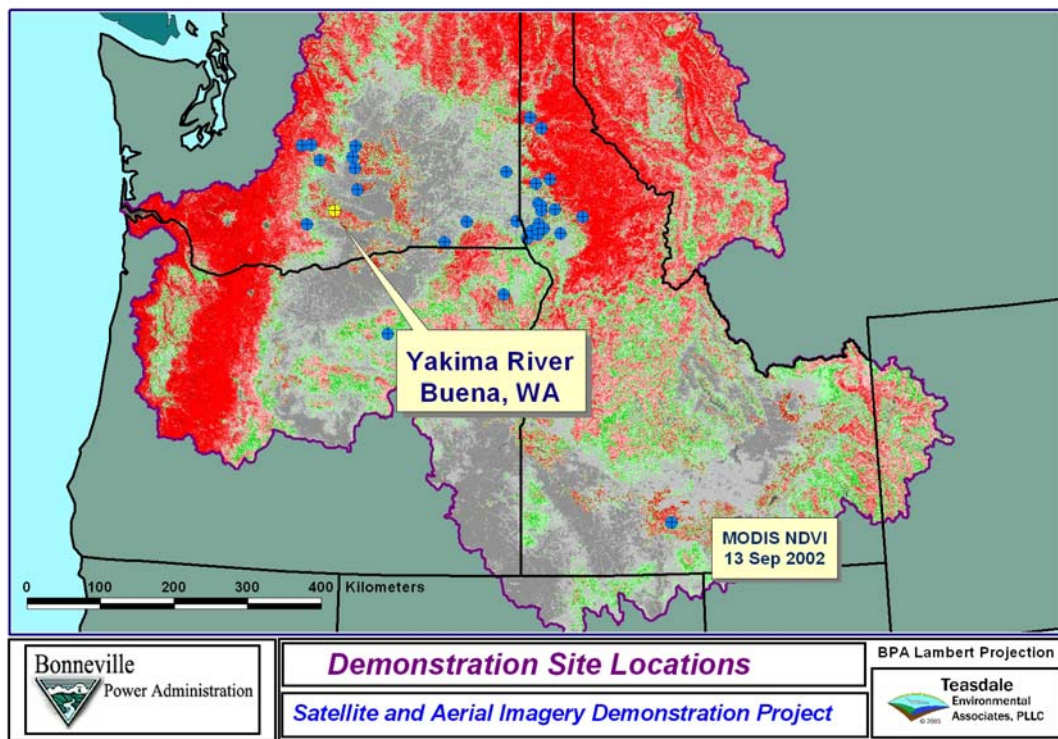


| Yakima River - Buena Demonstration Site | |
|---|---|
| Location | Yakima County, WA Yakama Reservation |
| Water body | Yakima River |
| Ecological Provenance | Columbia Plateau |
| Subbasin Name | Yakima |
| BPA Hydrologic Unit Code ID | 3556 |
| Hydrologic Unit Code, 6 th Level | 170300032401 |
| Watershed Name | Lower Yakima, WA |



Unique Characteristics

The lower Yakima River flows through relatively flat irrigated agricultural land. Historic meander patterns and evulsions are evident in the imagery record. Significant riparian vegetation exists near the stream channel and persistent mid channel bars and islands. Sediment and nutrient enrichment are the focus of water quality planning efforts. Satellite imagery for this site includes Landsat 5, Landsat 7, and ASTER. Digital color aerial imagery was acquired on October 15, 2002. Ancillary data includes topographic DRG's, DOQ's, watershed boundaries and national land cover data. The imagery and supporting data reveal the characteristics of riparian vegetation and stream channel morphology,

accumulations of large woody debris, constructed features, proximity of development and agricultural operations, aquatic weed (macrophytes) beds, and irrigation return flows.

Objective

The primary objective was determine if the aquatic weed, Parrot Feather, could be detected in very high resolution digital color aerial imagery. A secondary objective was to examine the aerial imagery for stream morphology, large wood debris accumulations, presence of floodplain ponds with significant algae and macrophyte growths, and assess shade providing riparian vegetation.

Results

Parrot feather could not be detected in the October aerial imagery, probably due to small patch size and close association with other macrophytes. Macrophyte beds and algae covered ponds could be seen in the aerial imagery. Satellite imagery detected the presence of algae and macrophyte covered ponds. The digital aerial imagery was beneficial for confirming satellite interpretations. Stream characteristics could be determined from the aerial imagery including type of channel bars, large woody debris accumulations, and stream macrostructure.